

ABSTRACT OF THE DISCLOSURE

[67] A method of replenishing hydrogen in a hydrogen fuel cell stack includes providing a source of hydrogen for the hydrogen fuel cell stack; providing a hydrogen fuel cell stack having an inlet for the introduction of hydrogen and an outlet for the removal of hydrogen; providing a hydrogen delivery and recovery sub-system for supplying hydrogen to and recovering unused hydrogen from the hydrogen fuel cell stack, the hydrogen delivery and recovery sub-system including a hermetically sealed regenerative pump; supplying hydrogen to the hydrogen delivery and recovery sub-system with the source of hydrogen; and pumping hydrogen through the hydrogen delivery and recovery sub-system to and from the hydrogen fuel cell stack using the hermetically sealed regenerative pump.